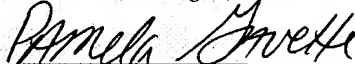




IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Mark S. Dennis Serial No.: To be Assigned Filed: June 30, 2000 For: COMPOUNDS THAT BIND HER2	Group Art Unit: NOT KNOWN Examiner: NOT KNOWN CERTIFICATION UNDER 37 CFR 1.10 <u>EL 141 796 365 US</u> : Express Mail Number <u>June 30, 2000</u> : Date of Deposit I hereby certify that this correspondence, consisting of specification, Non-Provisional Application Transmittal, Certificate Re: Sequence Listing Response Under 37 CFR § 1.821(f) and (g), Sequence Listing, sequence listing diskette, Combined Declaration for Patent Application and Power of Attorney, postcard, is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Assistant Commissioner of Patents, Washington, D.C. 20231.  Pamela Gavette
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CERTIFICATE RE: SEQUENCE LISTING**BOX SEQUENCES**


Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

I hereby state that the Sequence Listing submitted herewith is submitted in paper copy and a computer-readable diskette, and that the information recorded in computer readable form is identical to the written sequence listing.

Respectfully submitted,
GENENTECH, INC.

Date: June 30, 2000

By 
Jeffrey Kubinec
Reg. No. 36,575

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So. San Francisco, CA 94080-4990
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Sequence Listing

<110> Mark S. Dennis

<120> Compounds that Bind HER2

<130> P1713R1

<141> 2000-06-30

<150> US 60/142,232

<151> 1999-07-02

<160> 162

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Leu	Cys	Ser	Trp	Cys
				20

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Trp Cys

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Trp Cys

<210> 6
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Trp Cys

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Trp Cys

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Leu Gln Ala Cys Met
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Leu Leu Gln Cys Trp
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Leu Met Ser Cys Val
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Leu Leu Arg Cys Ile
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Leu Gln Ala Cys Leu
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Leu Ile Gly Cys Leu
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 Leu Leu Ser Cys Ile
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 Cys Leu

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 Cys Leu

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 Cys Leu

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 Glu Pro Trp Gly Cys Ile Gly Pro Gly Cys Ala Cys Leu Leu Gly
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 Cys Leu

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 Cys Ile

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 Cys Leu

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 Cys Leu

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Cys Leu

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Leu Cys

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Leu Arg Cys Lys Arg
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Leu Gly Phe Gly Tyr
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Leu Val Val Arg Lys
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Leu

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 Leu

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 Leu

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 Leu

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Leu

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Leu

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Leu

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 Leu

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 Leu

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 Leu

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 Leu Xaa Xaa Xaa Xaa
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 Cys Gly Leu Gly Cys Gly Leu Val Val Asn Ala Cys
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Cys Gly Pro Gly Cys Glu Phe Val Val Asp Ala Cys
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Cys Gly Pro Gly Cys Gly Phe Val Val Asp Ser Cys
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Cys Gly Leu Gly Cys Gly Trp Val Val Asn Val Cys
 20 25

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Cys Gly Leu Gly Cys Gly Trp Val Val Glu Ala Cys
 20 25

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Cys Ser Trp Val Ser Val Leu Cys Gly Gly Glu Trp Trp Gln Cys
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Cys Gly Pro Gly Cys Gly Leu Val Val Asn Ala Cys
20 25

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Cys Ser Trp Val Ser Leu Gln Cys Gly Gly Glu Trp Trp His Cys
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Cys Gly Gly Gly Cys Gly Trp Val Val Asn Val Cys
20 25

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Cys Gly Gly Gly Cys Gly Trp Val Gly Glu Ala Cys
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Cys Gly Leu Gly Cys Gly Trp Val Ala Asp Ala Cys
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 Cys Gly Gly Gly Cys Gly Trp Val Val His Ala Cys
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 Cys Gly Pro Gly Cys Gly Trp Val Val Asp Ala Cys
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Val Phe Gly Ala His
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Leu Phe Asp Ala His
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Leu Leu Glu Ala His
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Leu Phe Glu Gly His
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Leu Phe Gly Ala Leu
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 Leu Phe Glu Ala Tyr
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 Leu Phe Ala Gly His
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 His Asp Val Glu Gly Trp Gly Cys Ile Gly Pro Gly Cys Ala Asp
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 Leu Phe Glu Ala Phe
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 Leu Phe Glu Ala His
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 Cys Xaa Gly Pro Gly Cys
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 Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
 35 40 45

 Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 50 55 60

 Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
 65 70 75

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Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	
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Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	
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Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	
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Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	
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Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	
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Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	
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Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	
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Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	
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Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	
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Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	
				170					175					180	
Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	
				185					190					195	
Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	
				200					205					210	
Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys								
				215											

<210> 74
 <211> 217
 <212> PRT
 <213> Homo sapiens

<400> 74

Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	
1				5					10					15	
Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	
				20					25					30	
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	Phe	
				35					40					45	
Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	
				50					55					60	
Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	
				65					70					75	
Leu	Thr	Val	Val	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	
				80					85					90	
Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	
				95					100					105	
Ile	Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	
				110					115					120	
Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	
				125					130					135	

Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	
				140					145					150	
Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	
				155					160					165	
Pro	Met	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	
				170					175					180	
Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	
				185					190					195	
Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	
				200					205					210	
Leu	Ser	Leu	Ser	Pro	Gly	Lys									
				215											

<210> 75
 <211> 218
 <212> PRT
 <213> Homo sapiens

<400> 75

Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	
1				5					10					15	
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	
				20					25					30	
Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	
				35					40					45	
Phe	Lys	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	
				50					55					60	
Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	
				65					70					75	
Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	
				80					85					90	
Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	
				95					100					105	
Thr	Ile	Ser	Lys	Thr	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	
				110					115					120	
Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	
				125					130					135	
Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	
				140					145					150	
Glu	Trp	Glu	Ser	Ser	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Asn	Thr	Thr	
				155					160					165	

Pro	Pro	Met	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys
				170					175					180
Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Ile	Phe	Ser
				185					190					195
Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	Arg	Phe	Thr	Gln	Lys
				200					205					210
Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys							
				215										

<210> 76
 <211> 218
 <212> PRT
 <213> Homo sapiens

<400> 76

Pro	Ala	Pro	Glu	Phe	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro
1				5					10					15
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val
				20					25					30
Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	Glu	Val	Gln
				35					40					45
Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr
				50					55					60
Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser
				65					70					75
Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr
				80					85					90
Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys
				95					100					105
Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr
				110					115					120
Thr	Leu	Pro	Pro	Ser	Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser
				125					130					135
Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val
				140					145					150
Glu	Trp	Glx	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr
				155					160					165
Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Arg
				170					175					180
Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Glu	Gly	Asn	Val	Phe	Ser
				185					190					195

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
200 205 210

Ser Leu Ser Leu Ser Leu Gly Lys
215

<210> 77
<211> 215
<212> PRT
<213> Mus musculus

<400> 77
Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro
1 5 10 15
Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val
20 25 30
Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp
35 40 45
Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg
50 55 60
Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro
65 70 75
Ile Met His Gln Asp Cys Leu Asn Gly Lys Glu Phe Lys Cys Arg
80 85 90
Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser
95 100 105
Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
110 115 120
Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys
125 130 135
Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
140 145 150
Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
155 160 165
Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
170 175 180
Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
185 190 195
Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser
200 205 210
His Ser Pro Gly Lys
215

<210> 78
 <211> 218
 <212> PRT
 <213> Mus musculus

<400> 78

Pro	Ala	Pro	Asn	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Ile	Phe	Pro
1				5					10					15
Pro	Lys	Ile	Lys	Asp	Val	Leu	Met	Ile	Ser	Leu	Ser	Pro	Ile	Val
				20					25					30
Thr	Cys	Val	Val	Val	Asp	Val	Ser	Glu	Asp	Asp	Pro	Asp	Val	Gln
				35					40					45
Ile	Ser	Trp	Phe	Val	Asn	Asn	Val	Glu	Val	His	Thr	Ala	Gln	Thr
				50					55					60
Gln	Thr	His	Arg	Glu	Asp	Tyr	Asn	Ser	Thr	Leu	Arg	Val	Val	Ser
				65					70					75
Ala	Leu	Pro	Ile	Gln	His	Gln	Asp	Trp	Met	Ser	Gly	Lys	Glu	Phe
				80					85					90
Lys	Cys	Lys	Val	Asn	Asn	Lys	Asp	Leu	Pro	Ala	Pro	Ile	Glu	Arg
				95					100					105
Thr	Ile	Ser	Lys	Pro	Lys	Gly	Ser	Val	Arg	Ala	Pro	Gln	Val	Tyr
				110					115					120
Val	Leu	Pro	Pro	Pro	Glu	Glu	Glu	Met	Thr	Lys	Lys	Gln	Val	Thr
				125					130					135
Leu	Thr	Cys	Met	Val	Thr	Asp	Phe	Met	Pro	Glu	Asp	Ile	Tyr	Val
				140					145					150
Glu	Trp	Thr	Asn	Asn	Gly	Lys	Thr	Glu	Leu	Asn	Tyr	Lys	Asn	Thr
				155					160					165
Glu	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Tyr	Phe	Met	Tyr	Ser	Lys
				170					175					180
Leu	Arg	Val	Glu	Lys	Lys	Asn	Trp	Val	Glu	Arg	Asn	Ser	Tyr	Ser
				185					190					195
Cys	Ser	Val	Val	His	Glu	Gly	Leu	His	Asn	His	His	Thr	Thr	Lys
				200					205					210
Ser	Phe	Ser	Arg	Thr	Pro	Gly	Lys							
				215										

<210> 79
 <211> 218
 <212> PRT
 <213> Mus musculus

<400> 79

Pro	Ala	Pro	Asn	Leu	Glu	Gly	Gly	Pro	Ser	Val	Phe	Ile	Phe	Pro	
1				5					10					15	
Pro	Asn	Ile	Lys	Asp	Val	Leu	Met	Ile	Ser	Leu	Thr	Pro	Lys	Val	
				20					25					30	
Thr	Cys	Val	Val	Val	Asp	Val	Ser	Glu	Asp	Asp	Pro	Asp	Val	Gln	
				35					40					45	
Ile	Ser	Trp	Phe	Val	Asn	Asn	Val	Glu	Val	His	Thr	Ala	Gln	Thr	
				50					55					60	
Gln	Thr	His	Arg	Glu	Asp	Tyr	Asn	Ser	Thr	Ile	Arg	Val	Val	Ser	
				65					70					75	
His	Leu	Pro	Ile	Gln	His	Gln	Asp	Trp	Met	Ser	Gly	Lys	Glu	Phe	
				80					85					90	
Lys	Cys	Lys	Val	Asn	Asn	Lys	Asp	Leu	Pro	Ser	Pro	Ile	Glu	Arg	
				95					100					105	
Thr	Ile	Ser	Lys	Pro	Lys	Gly	Leu	Val	Arg	Ala	Pro	Gln	Val	Tyr	
				110					115					120	
Thr	Leu	Pro	Pro	Pro	Ala	Glu	Gln	Leu	Ser	Arg	Lys	Asp	Val	Ser	
				125					130					135	
Leu	Thr	Cys	Leu	Val	Val	Gly	Phe	Asn	Pro	Gly	Asp	Ile	Ser	Val	
				140					145					150	
Glu	Trp	Thr	Ser	Asn	Gly	His	Thr	Glu	Glu	Asn	Tyr	Lys	Asp	Thr	
				155					160					165	
Ala	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Tyr	Phe	Ile	Tyr	Ser	Lys	
				170					175					180	
Leu	Asn	Met	Lys	Thr	Ser	Lys	Trp	Glu	Lys	Thr	Asp	Ser	Phe	Ser	
				185					190					195	
Cys	Asn	Val	Arg	His	Glu	Gly	Leu	Lys	Asn	Tyr	Tyr	Leu	Lys	Lys	
				200					205					210	
Thr	Ile	Ser	Arg	Ser	Pro	Gly	Lys								
				215											

<210> 80

<211> 218

<212> PRT

<213> Mus musculus

<400> 80

Pro	Pro	Gly	Asn	Ile	Leu	Gly	Gly	Pro	Ser	Val	Phe	Ile	Phe	Pro	
1				5					10					15	
Pro	Lys	Pro	Lys	Asp	Ala	Leu	Met	Ile	Ser	Leu	Thr	Pro	Lys	Val	
				20					25					30	

Thr	Cys	Val	Val	Val	Asp	Val	Ser	Glu	Asp	Asp	Pro	Asp	Val	His	
				35					40					45	
Val	Ser	Trp	Phe	Val	Asp	Asn	Lys	Glu	Val	His	Thr	Ala	Trp	Thr	
				50					55					60	
Gln	Pro	Arg	Glu	Ala	Gln	Tyr	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	
				65					70					75	
Ala	Leu	Pro	Ile	Gln	His	Gln	Asp	Trp	Met	Arg	Gly	Lys	Glu	Phe	
				80					85					90	
Lys	Cys	Lys	Val	Asn	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Arg	
				95					100					105	
Thr	Ile	Ser	Lys	Pro	Lys	Gly	Arg	Ala	Gln	Thr	Pro	Gln	Val	Tyr	
				110					115					120	
Thr	Ile	Pro	Pro	Pro	Arg	Glu	Gln	Met	Ser	Lys	Lys	Lys	Val	Ser	
				125					130					135	
Leu	Thr	Cys	Leu	Val	Thr	Asn	Phe	Phe	Ser	Glu	Ala	Ile	Ser	Val	
				140					145					150	
Glu	Trp	Glu	Arg	Asn	Gly	Glu	Leu	Glu	Gln	Asp	Tyr	Lys	Asn	Thr	
				155					160					165	
Pro	Pro	Ile	Leu	Asp	Ser	Asp	Gly	Thr	Tyr	Phe	Leu	Tyr	Ser	Lys	
				170					175					180	
Leu	Thr	Val	Asp	Thr	Asp	Ser	Trp	Leu	Gln	Gly	Glu	Ile	Phe	Thr	
				185					190					195	
Cys	Ser	Val	Val	His	Glu	Ala	Leu	His	Asn	His	His	Thr	Gln	Lys	
				200					205					210	
Asn	Leu	Ser	Arg	Ser	Pro	Gly	Lys								
				215											

<210> 81

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic peptide sequence

<400> 81

Gln	Val	Tyr	Glu	Ser	Trp	Gly	Cys	Ile	Gly	Pro	Gly	Cys	Ala	Cys	
1				5					10					15	

Leu	Gln	Ala	Cys	Leu											
				20											

<210> 82

<211> 46

<212> PRT

<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 82
Gln Val Tyr Glu Ser Trp Gly Cys Ile Gly Pro Gly Cys Ala Cys
1 5 10 15
Leu Gln Ala Cys Leu Gly Gly Gly Ser Gly Gly Gln Val Tyr Glu
20 25 30
Ser Trp Gly Cys Ile Gly Pro Gly Cys Ala Cys Leu Gln Ala Cys
35 40 45
Leu

<210> 83
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 83
Cys Ala Trp Val Ser Val Glu Cys Gly Gly Glu Trp Trp His Cys
1 5 10 15
Cys Gly Pro Gly Cys Gly Trp Val Val Asp Ala Cys
20 25

<210> 84
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 84
Tyr Ser Phe Glu Gly Trp Gly Cys Ile Gly Pro Gly Cys Ala Tyr
1 5 10 15
Leu Phe Glu Gly His
20

<210> 85
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 85
Tyr Glu Trp Glu Gly Trp Gly Cys Ile Gly Pro Gly Cys Pro Ala
1 5 10 15

Leu Gly Phe Gly Tyr
20

<210> 86
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 86
Gln Arg Asn Glu Ala Trp Gly Cys Ile Gly Pro Gly Cys Glu Met
1 5 10 15

Leu Cys Ala Trp Cys
20

<210> 87
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 87
Thr Gln Ala Glu Arg Trp Gly Cys Ile Gly Pro Gly Cys Glu Cys
1 5 10 15

Leu Met Ser Cys Val
20

<210> 88
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 88
Cys Ile Asp Glu Thr Trp Gly Cys Ile Gly Pro Gly Cys Glu Glu
1 5 10 15

Leu Arg Cys Lys Arg
20

<210> 89
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 89
 Asn Val Cys Glu Phe Trp Gly Cys Ile Gly Pro Gly Cys Ala Gln
 1 5 10 15

Leu Cys

<210> 90
 <211> 27
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<220>
 <221> Mutagen
 <222> 1-14, 16, 21-27
 <223> More than one possible amino acid

<400> 90
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
 1 5 10 15

Xaa Gly Pro Gly Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20 25

<210> 91
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<220>
 <221> Mutagen
 <222> 1-3, 5, 14-15, 17-20
 <223> More than one possible amino acid

<400> 91
 Xaa Xaa Xaa Glu Xaa Trp Gly Cys Ile Gly Pro Gly Cys Xaa Xaa
 1 5 10 15

Leu Xaa Xaa Xaa Xaa
 20

<210> 92
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<220>
 <221> Mutagen
 <222> 1-7, 9, 14-20
 <223> More than one possible amino acid

 <400> 92
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Gly Pro Gly Cys Xaa Xaa
 1 5 10 15

 Xaa Xaa Xaa Xaa Xaa
 20

 <210> 93
 <211> 20
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <220>
 <221> Mutagen
 <222> 1-5, 7, 9, 14-20
 <223> More than one possible amino acid

 <400> 93
 Xaa Xaa Xaa Xaa Xaa Trp Xaa Cys Xaa Gly Pro Gly Cys Xaa Xaa
 1 5 10 15

 Xaa Xaa Xaa Xaa Xaa
 20

 <210> 94
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 94
 Phe Gly Ala His
 1

 <210> 95
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 95
 Phe Asp Ala His
 1

<210> 96
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 96
 Leu Glu Ala His
 1

 <210> 97
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 97
 Phe Glu Gly His
 1

 <210> 98
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 98
 Phe Gly Ala Leu
 1

 <210> 99
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 99
 Phe Glu Ala Tyr
 1

 <210> 100
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

<400> 100
 Phe Ala Gly His
 1

<210> 101
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 101
 Phe Glu Ala Phe
 1

<210> 102
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 102
 Gln Ala Cys Met
 1

<210> 103
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 103
 Leu Gln Cys Trp
 1

<210> 104
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 104
 Met Ser Cys Val
 1

<210> 105
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 105
Leu Arg Cys Ile
1

<210> 106
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 106
Gln Ala Cys Leu
1

<210> 107
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 107
Leu Ser Cys Leu
1

<210> 108
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 108
Ile Gly Cys Leu
1

<210> 109
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 109
Leu Ala Cys Leu
1

<210> 110
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 110
 Leu Ser Cys Ile
 1

 <210> 111
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 111
 Met Asn Cys Leu
 1

 <210> 112
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 112
 Leu Arg Cys Leu
 1

 <210> 113
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 113
 Leu Lys Cys Leu
 1

 <210> 114
 <211> 4
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

<400> 114
 Leu Gly Cys Leu
 1

<210> 115
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 115
 Leu Asn Cys Ile
 1

<210> 116
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 116
 Met Gly Cys Leu
 1

<210> 117
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 117
 Met Ala Cys Leu
 1

<210> 118
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 118
 Cys Ala Trp Cys
 1

<210> 119
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 119
Cys Ser Trp Cys
1

<210> 120
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 120
Cys Glu Pro Cys
1

<210> 121
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 121
Cys Asp Trp Cys
1

<210> 122
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 122
Cys Glu Trp Cys
1

<210> 123
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 123
Cys Asn Trp Cys
1

<210> 124
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 124
Cys Gly Trp Cys
1

<210> 125
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<220>
<221> Mutagen
<222> 2-7, 9-14, 17-19, 21-26
<223> More than one possible amino acid

<400> 125
Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys
1 5 10 15
Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys
20 25

<210> 126
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<220>
<221> Mutagen
<222> 1-10, 12, 14, 21-27
<223> More than one possible amino acid

<400> 126
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Trp Xaa Cys
1 5 10 15
Cys Gly Pro Gly Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25

<210> 127
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
 <221> Mutagen
 <222> 2, 5-7, 9
 <223> More than one possible amino acid

 <400> 127
 Cys Xaa Trp Val Xaa Xaa Xaa Cys Xaa Gly
 1 5 10

 <210> 128
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <220>
 <221> Mutagen
 <222> 6-7
 <223> More than one possible amino acid

 <400> 128
 Cys Ala Trp Val Leu Xaa Xaa Cys Gly Gly
 1 5 10

 <210> 129
 <211> 6
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 129
 Gly Gly Gly Ser Gly Gly
 1 5

 <210> 130
 <211> 6
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 130
 Gly Gly Gly Ser Ser Gly
 1 5

 <210> 131
 <211> 6
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

<400> 131
 Gly Gly Gly Arg Gly Gly
 1 5

<210> 132
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 132
 Tyr Glu Val Glu Ala Trp Asp Cys Met Gly Pro Gly Cys Ala Asn
 1 5 10 15
 Leu Phe Glu Ala His
 20

<210> 133
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 133
 Ser Ser Glu Cys Ala Cys Asp Lys Gly Gly Arg Arg Val Leu Cys
 1 5 10 15
 Ile Asn Lys Val Gly
 20

<210> 134
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 134
 Glu Pro His Gly Cys Ser Leu Trp Asp Trp Glu Leu Arg Thr Cys
 1 5 10 15
 Ser Glu Tyr Ala Asn
 20

<210> 135
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic peptide sequence

<400> 135
Lys Glu Arg Pro Cys Ala Gly Asp Ala Pro Arg Lys Gly Val Cys
1 5 10 15

His Val Ala Thr His
20

<210> 136
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 136
Lys Val Arg Ser Cys Ile Glu Glu Ser Leu Asp Thr Arg Arg Cys
1 5 10 15

Tyr Leu Val Val Glu
20

<210> 137
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 137
Ala Lys Thr Ser Ser Cys Gly Glu His Glu Glu Arg Arg Ala Val
1 5 10 15

Cys Val Leu Ser Arg
20

<210> 138
<211> 8
<212> PRT
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<220>
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<400> 138
Lys Val Trp Ser Val Gln Ser Pro
1 5

<210> 139
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 139
 Gly Lys Val Gln Arg Cys Ile Pro
 1 5

<210> 140
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 140
 Gln Thr Cys Arg Arg Val Leu Cys Leu Pro
 1 5 10

<210> 141
 <211> 8
 <212> PRT
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<220>
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<400> 141
 Arg Val Trp Thr Trp Arg Trp Asn
 1 5

<210> 142
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 142
 Arg Ile Cys Thr Thr Pro Cys Ala Val
 1 5

<210> 143
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 143
 Thr Ser Cys Arg Arg Val Phe Cys Ala Val
 1 5 10

<210> 144
 <211> 8
 <212> PRT
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<220>
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 <400> 144
 Arg Val Cys Thr Gly Cys Val Thr
 1 5

 <210> 145
 <211> 10
 <212> PRT
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 <220>
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 <400> 145
 Lys Val Cys Thr Arg Val Cys Cys Gly Thr
 1 5 10

 <210> 146
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
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 <400> 146
 His Pro Cys His Met Arg Val Leu Cys Ala Ala
 1 5 10

 <210> 147
 <211> 13
 <212> PRT
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 <220>
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 <400> 147
 Arg Gly Cys Lys Ala Thr Gly Lys Val Leu Cys Ser Leu
 1 5 10

 <210> 148
 <211> 12
 <212> PRT
 <213> Artificial Sequence

 <220>
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 <400> 148
 Ser Gly Cys Leu Arg Ala Val Gly Ala Cys Asn Thr
 1 5 10

<210> 149
 <211> 11
 <212> PRT
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 <220>
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 <400> 149
 Ala Gly Cys Gly Ser Lys Ala Val Cys Val Ser
 1 5 10

 <210> 150
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
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 <400> 150
 Arg Val Trp Thr Ala Pro Gln Cys Leu Ile
 1 5 10

 <210> 151
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
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 <400> 151
 Lys Val Cys His Ala Ser Ser Gly Cys Val Ala
 1 5 10

 <210> 152
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <400> 152
 Arg Ala Cys Gln Arg Ala Cys Leu Cys Pro Ala
 1 5 10

 <210> 153
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

<400> 153
Arg Ser Cys Ala Asp Val Ala Ser Arg Cys Trp Glu His Cys Ile
1 5 10 15

Thr

<210> 154
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 154
Thr Asp Cys Gly Arg Val Ala Ser Val Cys Trp Glu Ser Cys Leu
1 5 10 15

Ile

<210> 155
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 155
Cys Cys Glu Thr Arg Trp Trp Cys Gln Trp Gly Phe Cys Ser Gly
1 5 10 15

Ser Ala Cys Cys

<210> 156
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 156
Gly Cys Lys Arg Val Cys Ser Leu Gly Val Met Cys
1 5 10

<210> 157
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 157
Cys Ser Trp Val Leu Val Gln Cys Gly Gly Glu Trp Trp His Cys
1 5 10 15

Cys Gly Leu Gly Cys Gly Leu Val Val Asn Ala Cys
20 25

<210> 158
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<400> 158
Cys Gly Cys Glu Glu Arg Lys Ala Trp Lys Cys Gln Glu Ala Cys
1 5 10 15

Ala Arg Ser Gly Thr Val
20

<210> 159
<211> 84
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 159
cgcgcccagg tgtacgagtc ctgggggatgc atcgggccccg gctgcgcctg 50
cctgcaggcc tgcctgggag gcgggagctc cggc 84

<210> 160
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide

<400> 160
gccggagctc ccgcctccca ggcaggcctg caggcaggcg cagccggggc 50
cgatgcatcc ccaggactcg tacacctggg 80

<210> 161
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic peptide sequence

<220>
 <221> Mutagen
 <222> 1-7, 14-20
 <223> More than one possible amino acid

 <400> 161
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Ile Gly Pro Gly Cys Xaa Xaa
 1 5 10 15

 Xaa Xaa Xaa Xaa Xaa
 20

 <210> 162
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic peptide sequence

 <220>
 <221> Mutagen
 <222> 6-7
 <223> More than one possible amino acid

 <400> 162
 Cys Ser Trp Val Leu Xaa Xaa Cys Gly Gly
 1 5 10